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SUBJECT: THE BIOFUELS PICTURE IN FINLAND

REF: STATE 133131

11. Believing that biofuels can decrease greenhouse gas emissions while also further diversifying its overall energy mix, the Government of Finland is aggressively funding programs that will create biofuels from woody biomass, fuel peat, and recovered fuels. Finland has also begun increasing the use of biofuels for transportation. Renewable energy already comprises an impressive 25 percent of Finland,s primary energy consumption (85 percent from bioenergy mostly wood); this figure is expected to rise to 35 percent during the next decade. Finland has mandated that biofuels make up 2 percent of all transportation fuels by 2008, gradually increasing to 5.75 percent by 2010. This mandate has created instant market demand, further fueling overall research and development efforts by in both the Finnish public and private sectors, including many companies in the paper and pulp industry which seek to integrate energy production from biomass into their overall businesses.

The Government Offers Support(

 $\underline{\P}2$. The Finnish Government, its public funding unit Tekes (Finnish Funding Agency for Technology and Innovation) and its grant recipients -- science and research organizations such as VTT Technical Research Center and State-sponsored universities are all players in Finland,s growing biofuels sector. Tekes provides grants that support innovative research and development projects conducted by companies, research institutes, and universities. For example, Tekes is currently supporting Biorefine, a 5-year, 140 million euro program for research and development of biofuel technologies. Grant recipients (i.e. VTT, University of Helsinki, private companies) generally must publish their results for use by the general public; this is a measure to strengthen Finland's knowledge-based economy. In addition to Tekes funding, the Finnish Ministry of Trade and Industry has a separate annual budget of 9 million euros for tangible biofuel demonstration projects. According to Minister of Trade and Industry Mauri Pekkarinen (who holds the energy portfolio), this fund is a

strong sign to the world that significant efforts are being put toward biofuel research and development in Finland.

(But Looks to the Private Sector for Innovation

- 13. Finnish companies are also actively involved in biofuel research and development, bringing a competitive element to Finland's biofuel landscape and creating an atmosphere ripe for networking between companies. Paper and pulp industrial giant Stora Enso has partnered with Neste, Finland's semi-State-owned oil company, to produce second generation biofuels at a new facility in southern Finland. UPM-Kymmene, another leading forest products company, is working with the Gas Technologies Institute (GTI) in Chicago to integrate biofuel production into the overall pulp and paper lifecycle. As wood fuels already contribute the majority of bioenergy production in Finland, this sort of integration between energy companies and the pulp and paper industry is quite natural. Tekes also offers smaller financial grants to private companies on the condition that the companies disclose limited general information on their findings without having to disclose proprietary secrets.
- 14. (U) Listed below are various Finnish publications (in English) on biofuels:

Publications:

EUBIONET. Solid and liquid biofuels markets in Finland. 2006.

Hermans, Raine, Kulvik, Matti, Yla-Anttila, Pekka. FINBIO International megatrends and growth prospects of the Finnish

HELSINKI 00000797 002 OF 002

biotechnology industry. 2005.

Leppalahti, Jukka. BioRefinery State of Art Finland. 2007.

Luxmore, Crystal. Leaders of the pack; Second-generation biofuel pioneers. 2007.

Makinen, T. IEA Bioenergy Task 42 Country Report Finland. ¶2007.

Makinen, T, Sipila, K, Nylynd N-O. Possibilities to produce and use biofuels in transportation in Finland. 2005.

Neste Oil Corporation. Neste Oil and Stora Enso to join forces in biofuel development. 2007.

Tekes. Growing Power, Renewable solutions by bioenergy technology from Finland. 2007.

UPM. UPM and Andritz/Carbona team up for biomass based synthetic gas production. 2007.

Websites:

Finnish Bioindustries, http://www.finbio.net/en/

Ministry of Trade and Industry - Biotechnology,
http://www.ktm.fi/?l=en&s=57

Neste Oil, http://www.nesteoil.com/

TEKES, http://www.tekes.fi/eng/

Turku Center for Biotechnology, http://www.btk.fi/

University of Helsinki - Institute of Biotechnology, http://www.biocenter.helsinki.fi/bi/

UPM, http://www.upm-kymmene.com/

VTT, http://www.vtt.fi/?lang=en

The Embassy is happy to provide copies of any of these materials, or additional materials, upon request.

Comment

- 15. Finland is emerging as a leader in the development of innovative biofuel technologies and it serves as an effective laboratory for next generation biofuel production, particularly from wood sources. Embassy Helsinki warmly welcomes USITC officials to visit and learn more about current and developing biofuel technologies in Finland.
- 16. (U) As requested, the primary point of contact for biofuel issues at US Embassy Helsinki is: Glenn Lewis: (358)(9) 6162-5481 / lewisgk@state.gov WARE